Attached hereto is a marked up version of the changes made to the claims in this amendment. The attached page is captioned "**Version with markings to show changes made**". In view of the above amendatory matter and the following remarks, favorable reconsideration of this case is respectfully requested.

Claims 1-7, 121 and 122 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims have been amended and claim 122 has been cancelled. Therefore, it is respectfully requested that the 112 rejections be withdrawn.

Claims 1, 3-7 and 120-122 are rejected under 35 U.S.C. 102(e) as being anticipated by Kurihara (6,069,956). This rejection is respectfully traversed.

Amended independent claim 1 recites in part:

> "scramble key generation means for generating a scramble key corresponding to each of said data elements, wherein said scramble key is updated at predetermined intervals; and
>
> scramble means for scrambling said corresponding data element by using a scramble key generated by said scramble key generation means."

Independent claim 120 recites similar limitations.

Fig. 1 of the present invention illustrates a data multiplexing device used for a pay broadcast system. Such a system authorizes only subscribers to watch and/or hear transmitted programs comprised of a plurality of data elements (e.g., video data and audio data). Such a system must scramble programs with scramble keys Ks generated by the broadcast station before transmission and allow only subscribers to descramble the programs to watch and/or hear them.

In order to allow only subscribers to descramble such scrambled programs at the receiver end, scramble keys used in scrambling must be used also for descrambling. To descramble programs transmitted via satellites, these scramble keys must also be transmitted to

the receiver end. However, with prior art broadcast systems, an unauthorized recipient is frequently able to obtain these scramble keys and consequently to watch and/or hear all transmitted programs free of charge.

Advantageously, the present invention greatly enhances the security level of the encryption/decryption system, by randomly changing these scramble keys at predetermined intervals. In Fig. 1, a subscriber authorization system 3 generates a different scramble key Ks for each data element contained in a transmitted program. In the example shown in Figure 2, different scramble keys Ks7 through Ks10 are generated and assigned, respectively, to the video data, main audio data, sub-audio data, and private data constituting the fourth program. To optimize security, the subscriber authorization system 3 updates these scramble keys Ks7 through Ks10 at intervals of 4 seconds with a random number generator included in the subscriber authorization system 3.

The Examiner states that "Element 21 of figure 2 anticipates the first part of the first clause of claim 1...[and] Lines 63-64 of column 7 anticipate periodic scramble key updates...[and] Lines 19-26 of column 16 anticipate scramble means." The Examiner also states "With respect to claim 120, lines 28-29 of column 10 show an enciphered scramble key." This is not the case. Lines 63-64 of column 7 of Kurihara merely show whether the information of the time-division frame and the scramble key is valid. Kurihara does not teach or disclose **updating the scramble key at predetermined intervals** as required by Applicant's independent claim 1. Therefore, the reference fails to disclose that such ECM's are periodically updated for security purposes; and the reference nowhere discloses, in particular, "scramble key generation means for generating a scramble key corresponding to each of said data elements, wherein said scramble key is updated at predetermined intervals."

Therefore, withdrawal of the rejections to claim 1 is respectfully requested. For reasons similar to those described above with regard to claim 1, withdrawal of the rejections to independent claim 120, as amended herein, is respectfully requested. Accordingly, Applicants submit, therefore, that the present application is in condition for allowance. An early notice to this effect is respectfully solicited.

Claims 2-5, and 121-122 are dependent from one of claims 1 and 120, and, due to such dependency are distinguishable for the same reasons as the independent claims. Therefore, withdrawal of the rejections to claims 2-5 and 121-122 is respectfully requested.

In light of the above, Applicants' representative traverses the Examiner's rejections and respectfully submits that the references, alone or in combination do not teach or suggest all of the features of the present invention, as claimed. In view of the foregoing amendments and remarks, it is believed that all of the claims now in this application are patentable over the prior art. Early and favorable consideration thereof is solicited. On the basis of the above amendments and remarks, reconsideration and allowance of this application are respectfully requested.

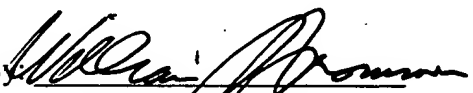
The above statements concerning the disclosures in the cited references represent the present opinion of Applicants' representative and, in the event that the Examiner disagrees, Applicants' representative respectfully requests the Examiner specifically indicate those portions of the respective references providing the basis for a contrary view.

In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicants' representative at the telephone number listed below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully Submitted,

FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicants

By: 

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VERSION WITH MARKINGS SHOWING CHANGES MADE

Claim 1 has been amended as follows:

1. (Amended) A data multiplexing device which multiplexes and transmits transport stream packets of program data comprising a plurality of data elements constructed in the form of transport stream packets, said device comprising:

scramble key generation means for generating a scramble key corresponding to each of said data elements, wherein said scramble key is updated at predetermined intervals; and

scramble means for scrambling [said] a corresponding data element by using a scramble key generated by said scramble key generation means.